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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/607,916

06/27/2003

Yoshiaki Nishiya

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23460 7590 01/22/2010  
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EXAMINER

DO, PENSEE T

ART UNIT

PAPER NUMBER

1641

NOTIFICATION DATE

DELIVERY MODE

01/22/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Chgpatent@leydig.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/607,916	<b>Applicant(s)</b> NISHIYA ET AL.	
	<b>Examiner</b> Pensee T. Do	<b>Art Unit</b> 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6,8 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) 15-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1, 6, 8, 15-24 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

This application, 10607916, PG Pub. No. 20040126902 , filed 06/27/2003 claims foreign priority to 188140/2002 , filed 06/27/2002, and also claims foreign priority to 230533/2002 , filed 08/07/2002 and claims foreign priority to 267170/2002 , filed 09/12/2002.

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 6, 2009 has been entered.

### ***Amendment Entry & Claims Status***

The amendment filed on November 6, 2009 has been acknowledged and entered.

Claims 1, 6, 8, 15-24 are pending.

Claims 1, 6, 8 are being examined.

Claims 15-24 are withdrawn from further consideration due to a non-elected invention.

### ***Claimed Invention***

- 1.(Currently Amended) A magnetic carrier for a biological substance, which
- (i) has a saturation magnetization of 30-80 A.m<sup>2</sup>/kg and a coercive force of 2.39-11.94 kA/m,
  - (ii) is a ferromagnetic iron oxide particle coated with silica comprising (a) a ferromagnetic iron oxide particle having an aspect ratio of 1.0-1.2 and (b) silica coating the particle in a proportion of 3-100 wt% of the particle, wherein the particle has an average particle size of 0.1-0.5  $\mu$ m, and wherein the silica coating is adhered to the surface of the particle to form the outermost layer of the particle, and
  - (iii) can bind a nucleic acid.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Tan et al. (US 6,548,264).

Tan teaches a magnetic carrier which is a ferromagnetic iron oxide particle coated with a silica coating. (see col. 4, lines 12-15; col. 4, lines 61-62). The particle has an average size of 1 nm to 1000 nm which covers the claimed range of 100 nm to 500 nm (0.1  $\mu$ m - 0.5  $\mu$ m). (see col. 4, lines 26-35). Regarding the concentration of silica

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(3-100 wt% of the particle), Tan teaches that 100 ul NH<sub>4</sub>OH equals to 28-30 wt% (see col. 12, line 62) and using 50 ul of TEOS (silica) (see col. 13, lines 3-5). Thus, since 100 ul is equivalent to 28-30 wt%, 50 ul of TEOS (silica) must be half of 28-30 wt% which is 14-15 wt% and such range falls within the range of 3-100 wt% as claimed in the present invention. Regarding the aspect ratio, the saturation magnetization and the coercive force of the particle, since Tan teaches the same magnetic carrier with the same structural composition, the magnetic carrier must possess the same properties as claimed in the present invention with respect to the aspect ratio, the saturation magnetization and the coercive force. Regarding the limitation of the particle can bind a nucleic acid, since the particle of Tan has the same characteristics as that of the present invention, it would be able to bind a nucleic acid. In fact, Tan teaches the silica coating comprises functional groups that can bind to nucleic acid molecule. (see col. 6, lines 36-42).

For claims 6 and 8, Tan teaches that the magnetic particle/core is a magnetite (see col. 4, lines 62-63).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 6, 8 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pensee T. Do whose telephone number is 571-272-0819. The examiner can normally be reached on Monday-Friday, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Shibuya can be reached on 571-272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pensee T. Do/  
Examiner, Art Unit 1641

/Mark L. Shibuya/  
Supervisory Patent Examiner, Art Unit 1641